INDEX.

ILLUSTRATIONS.

A

Aconometer, the 219
Airship, Santos-Dumont, 57, 89, 155, 213, 314
Airships, Ezekiel 228
Alabama, the 376
Alarm, burglar, new 431
America cup contests 217, 235
Animal, a new 250
Arc, electric, photographed 249
Arkansas, the 381
Arch, rock 8
Armor and guns 382
Armor plate 384
Artesian wells 21
Automobile, alcohol 428
Automobile axle 180
Automobile exhibits 315
Automobile, fire engine 105
Automobile forage wagon 229
Automobile, miniature 26
Automobile mower 132
Automobile race 56
Automobile races, Newport 169
Automobile, racing, Riker 347
Automobile, telegraphic 40
Automobiles, style in 292
Automobiles, types of 330
Auto-tricycle 9
Axle, driving, automobile 180

B

Baby incubators 68
Ball supporter 348
Balloon, Ezekiel 228
Balloon, Santos-Dumont, 57, 89, 155, 213, 314
Balloon, the de la Vaulx 265
Barrel, a new 431
Barometer, new 90
Battleship, Charlemagne 311
Battleship design 91
Battleship design, new 345, 346
Battleship, Retvizan 257, 263
Battleship, Russian 262
Battleships 375
Battleships, new 33, 39
Batteries, storage 25
Battery, semi-dry 74
Beekeeping 281
Bicycle gas generator 431
Bicycle, military, French 204
Bicycles, motor 413
Blowpipe, improved 53
Boat, house, Loudon 181
Boats, lance, German 9
Boats, submarine 387
Book lamp, new 181
Brake, Westinghouse 52
Breech mechanisms 383
Bridges, arch, concrete 327
Bridge, Brooklyn 75
Bridge, cantilever, new 132
Bridge, East River 311
Bridge, East River, new 161
Bridge, Goktelk 104
Bridge, lift, rolling 193
Bridge, Rankin 361
Bridge, Willis Avenue 153
Bridges, suspen. New York 65
Bucket, grab, automatic 180
Burglar alarm, new 431
Burial mound, African 248

C

Cable laying in Philippines 326
Cable span, Carquinez 280
California, the 385
Can opener, novel 84
Car, dump, Goodwin 1
Car, excursion, night 261
Car, palace, trolley 5
Caramels, making 185
Carbon heater 348
Carburetor, Brillie 428
Carquinez, cable span 280
Celtic, White Star liner 97
Chain stopper, new 53
Chalk-line marker 165
Charlemagne, battleship 311
Clouds and electricity 85
Coal, East Indian 101
Cocoanuts, breaking 186
Coke making 81
Coke oven, new 80
Coil, Ruhmkorff, cheap 171
Coins, manufacture of 146, 154
Comb, honey, making 281
Compass machine 184
Composing machine, new 37
Concentrators, gold 216
Concrete bridges, Niagara 327
Condenser, safety 409
Contrivances, odd 348
Cordage manufacture 241, 244
Corona, photograph of 331
Crane, an 80-ton 212
Croton dam, new 177, 182
Cruiser St. Louis 386
Cruisers, armored 385
Cup contests, America 217
Cup contests, series of 233
Cycle, motor, new 203
Cycles, motor 413
Cyclorama, Pan-American 17

D

Dairy, Queen Alexandra's 229
Dam, Croton, new 177, 182
Denver, the 387
Derrick, builder's 410
Designs, battleships 91
Dinnington, SS., wreck 20
Dinosaur, large, Yale's 105
Dipper handle, new 348
Dock, floating, large 73
Dock, floating, towing 297
Drainage, New Orleans 364, 365
Dredge, shovel, new 366
Drydock, towing a 297
Ducks, decoy 431
Duncan, battleship 33

E

Eclipse expedition to Sumatra 331
Eggs, examination of 88
Electricity in gold mining 216
Elevator for infants 68
Elevators, grain 117
Engine, locomotive, new 360
Engine, waste-heat 273
Engines of the King Edward 88
Engines of Wisconsin 377
Excursion car, night 261
Exposition, Pan-American 17
Ezekiel airship 228

F

Falkner Island 200
Fan, electric 348
Farragut, the 388
Fertilizer distributer 196
Festival, Mohammedan 101
Filament, lamp, new 349
Filter, a new 235
Fire department school 120, 121
Fire engine, automobile 105
Firebox for stoves 350
Fish, a very rare 415
Flashlight apparatus 305
Flood, Virginia 43
Flying machine, Nemethy's 73
Fog signals 200
Fogs, a study of 52
Frogs, hypnotized 415
Fuel killer II 201
Footbridge, East River 161
Forage wagon, automobile 229
Forest fires 101
Fossils, cleaning 4
Fountain, luminous 122
Fulton, Robert 407
Furnace, glass, electric 212

G

Gage, rain, new 312
Gage, wind pressure 312
Gas generator, bicycle 431
Gas, liquefying 148
Gates, sluice, Nile 265
Georgia, the 382
Giraffe, new species 168
Glass, furnace, electric 212
Gold mining, electric 216
Grab bucket, automatic 180
Grain elevator 117
Grate for stoves 350
Grease, pump, simple 165
Gun, 50-caliber, new 232
Gun, a wire-wound 152
Gun mounts 383
Gun, naval, new 383
Guns and armor 382
Guns, naval, new types 382

H

Harbor, improvement, Oakland 196
Haulage, third rail system 428
Hay stacker, new 410
Heater, carbon 348
Heater, water, electric 196
Hill-climbing shoe 209
Hoist, electric 53
Hoisting engine, Lidgerwood 1
Holland boat, the 387
Honeycomb, making 281
House, Seri 42
House boat, Loudon 181

I

Incubators, baby 68
India rubber tree, the 293
Indians, East, Trinidad 101
Indians, Seri 41
Indicator, locomotive 116
Infants, weighing 68
Inkwell, siphon 348
Iroquois, lengthening 136, 137
Iron making plant 409

J

Jerome Park reservoir 1
Jupiter steel 225

K

Kearsarge, the 373
Kentucky, the 375
Key keeper, a 209
King Edward, engines of 88
Kronprinz Wilhelm, the 104

L

Lamp, book, new 181
Lamp chimneys, manufacture 49
Lamp hanger, new 349
Lamp filament, new 348
Lance boats, German 9
Lamp post sign, new 26
Lathe, a home-made 148
Leather turtle 283
Lettering machine 184
Lick Observatory, station 331
Light, electric, chain pull 349
Lighthouse, Beach Head 280, 294
Lightning bolt, a 262
Linden, curious growth 73
Lizard, horned 187
Lockyer, Sir Norman 107
Locomotive of 1871 276
Locomotive, compound 276
Locomotive curiosity 197
Locomotive, electric, Italian 133
Locomotive explosion 197
Locomotive, freight 116
Locomotive indicator 116
Locomotive, passenger, new 360
Locomotive, Stephenson's 84
Locomotive, Vanderbilt 117
Loudon, housebout 181
Lubricator, improved 138

M

Magnets, lifting, electric 261
Maine, the 379
Marsh shoe, a 209
Maryland, the 385
Matches, manufacture of 149
Matterhorn, ascent of 168
Milk bottle holder 209
Milling machine 154
Mining, gold, electric 216
Mining plant, electric 209
Minot, Charles S. 131
Mint, United States 146, 154
Mold for wall construction 84
Molding, clever 260
Money, how made 146, 154
Monitors 381
Monument, Fulton 407
Motor bicycles 413
Motor, Brillie 428
Motor carriage race 56
Motor cycle, new 203
Motor, electric, submerged 245
Motor, wave 72
Motors, starting device 5
Mouse trap, electric 349
Mower, automobile 132

N

Navy yard, Puget Sound 323, 328
Nebula in Nova Persei 359
Niagara Falls bridge 329
Niagara rapids, passing 201
Nile irrigation works 228
Nouveau cirque 429
Nova Persei, nebula in 359
Nut-lock, railway track 102

O

Oil-cloth manufacture 357
Oil sprinkling train 264
Oil sprinkling wagon 187
Okapi, the 250
Opossum, the 383
Oven, coke, new 86

P

Palace car, trolley 5
Pan-American Exposition 17
Pendulum propeller 424
Peresviet, battleship 33
Perry, the 388
Petrifaction, curious 249
Photographone 56
Photography, flashlight 305
Pipe covering, fireproof 235
Plant electric, an 309
Plow, Barnhardt 1
Propeller, pendulum 424
Propeller, submerged 245
Pulley, split, simple 277
Pulley, wood, large 209
Pump, a new 26
Pump, grease, simple 165
Pump rod balance 431
Pyramid cliff 8
Pyramids of Del Mar 8
Pyrometer, new 10

R

Race, automobile 56
Racing machine, Winton 170
Races, automobile, Newport 169
Radiometer vanes 412
Rain gage 312
Railroad, miniature 412
Railway, funicular, electric 133
Railway, marine, a 277
Railway station, Buffalo 106
Railway, the Loschwitz 105
Rankin bridge 361
Repeater, telegraph 245
Reservoir, Jerome Park 1
Retvizan, battleship 257, 263
Riverside viaduct 60
Ropewalk, modern 241, 244
Rug straightener 116
Rubber tree, the 293

S

Safety condenser, Grieve 409
Salvage feat, clever 20
Salvage operation, novel 310
Sand blast, natural 58
Sandwheel, giant 405
Santos-Dumont No. 6 215
Santos-Dumont wins prize 314
Sash, window, Bogue 138
Saurians, American 207
Saw sharpener, new 260
Scale, fruit tree 309
School, fire department 120, 121
Schooner, seven-mast 248
Sentinel Rock 8
Seri Indians 41
Serpents for balloon steering 265
Sewerage, New Orleans 364, 365
Shamrock II 113, 122
Shell, Gathmann, effect of 344
Shells, explosive 22
Shells, tests of, Sandy Hook 339, 344
Shoe, hill climbing 209
Shoe, marsh 209
Shoe plank holder 84
Ship-worm, the 317
Sierra Madres, burning 101
Sign, direct, new 26
Signals, fog 200
Simplon tunnel 397
Skate, roller, new 431
Skein, wagon axle 235
Sluice gates, Nile 228
Smelter stack, wooden 209
Soap delivery device 277
Sounding machine 184
Speed indicator 109
Spiders, useful 342
Spinning jenny, rope 244
Stack, smelter, wood 209
Star-heat measuring 412
Starting device for motors 5
Station at Buffalo 106
Steam chest, locomotive 276
Steamer, shallow draught 347
Steamer, turbine 40
Steamship, N. German Lloyd, new 161
Steel, Jupiter 225
Stopper, chain, new 53
Stoves, grate for 350
St. Louis, the 386
Subway, rapid transit 296
Switchboard, multiple 24
Synchronism indicator 309

T

Talking machine 219
Tank of Nouveau cirque 429
Tank, water 71
Tarring of twine 244
Telegraph, Cape-Cairo 343
Telegraph repeater 245
Telegraph, wireless, cheap 171
Telegraphy, wireless 425
Telepherage system 120
Telephone, common battery 24
Teredo, the 317
Tomb, African 248
Torpedo boats 388
Torpedo boats, new 421
Trade Dollar Co.'s plant 209
Train, oil-sprinkling 264
Tramway, funicular, electric 133
Transit, rapid, subway 296
Transit, rapid, tunnel 278
Transmitter, Berliner 19
Tree windmill 240
Tricycle, Thomas 9
Trolley, palace car 5
Tumulus, African 248
Tunnel, rapid transit 278
Tunnel, Simplon 397
Turbine, marine, Astor's 298
Tunnels, railroad 420
Turbine steamer, new 40
Turntable, Langley 235
Turret, Gruson 17
Turret, superposed 123
Turtle, leather 283
Turtles of Galapagos 139
Twine holder, novel 5
Typesetting machine 154
Typesetting machine, new 37
Typewriter, new 283

V

Vane, weather, new 312
Ventilator, window 299
Viaduct, Riverside 60
Virginia flood 43

W

Wagon axle skein 235
Wagon, forage, motor 229
Wagon, oil-sprinkling 187
Wall construction, mold for 84
Waste-heat engine 273
Water heater, electric 196
Water tank, new 71
Water tower, fire 120
Wave motor 72
Weather changes, cause of 85
Weather vane, new 312
Weighing infants 68
Wells, artesian 21
Westinghouse Co. works 129, 138
Wharf destroyed by teredo 317
Wheel, ball bearing 348
Wheel within wheel 316
Wind pressure gage 312
Windmill, tree 240
Window sash, Bogue 138
Window ventilator 299
Wisconsin, engines of 377
Wisconsin, the 376
Woman, petrified 249
Worker bee and sting 281
Wrecking operation, novel 310
Writing machine 283
Wyoming fossils 4

Y

Yew tree, in old 73

Z

Zinc, mining, Kansas 20

MISCELLANY.

Figures preceded by a star (*) refer to illustrated articles.

A

Aborigines, name for 166
Absinthe as motor fuel 55
Abyssinia, explorations in 329
Academy of Sciences, National 325
Acetylene, advantages of 359
Acetylene gas lamps 422
Acetylene, impurity of 7
Acid, tartaric, compound 26
Acoumeter, the *219
Adder, the *387
Aeroplane problem 283
Africa, railroads of 430
Agricultural museum, Cuba 263
Agriculture along Yukon 103
Air, compressed, for oil wells 344
Air, compressed, uses of *57
Air, conquest of the 162
Air, liquid, company 411
Air of London tunnel 275
Airship, Bantin *228
Airship, Ezekiel 275
Airship prize, the 151
Airship, Renard's, new 165
Airship, Roze, test of *57, *89, *213, *314
Airships, Santos-Dumont, fails 195
Airship, Santos-Dumont, mishap 98
Airship, Santos-Dumont, prize *155
Airship, Santos-Dumont, wreck 250
Airship, the Kress *376
Alabama, the *431
Alarm, burglar *215
Alcohol apparatus, test of *428
Alcohol automobiles 309
Alcohol-consuming devices 68
Alcohol motors 67
Alcohol, solid 167
Alfred millenary, the *360
Alternators, indicator for *232
America cup, contest *217
America cup contests 242
America cup races 295
Anchor, a large *250
Animal, new, Okapi 250
Animals, wild, feeding 4
Apples, importance of 215
Aqueducts of Jerusalem 247
Arc, electric, photographing *249
Archaeology, Congress, 1903 194
Arctic discoveries 115
Arizona, seaport for *381
Arkansas, the *382
Armor and guns *21
Art works in Rome unguarded 195
Association, American 163
Association, British 167
Association, British, grants 309
Association, science, Amer 147
Atmosphere, depth of 150
Auger, post-hole, wanted 363
Automobile accident 23, 106, 280
Automobile Alpine trips 199
Automobile bank, an 266
Automobile ball fight 230
Automobile damage case 407
Automobile driving axle *180
Automobile endurance race 194
Automobile, fire 87
Automobile fire engines 134
Automobile forage wagon *229
Automobile in German army 312
Automobile in Tunisia 295
Automobile mail collecting 55
Automobile, Marconi's *40
Automobile mile track record 243
Automobile, miniature *26
Automobile mower *132
Automobile news 6, 23, 55, 71, 87, 106, 119, 134, 167, 183, 199, 215, 230, 262, 295, 362, 392
Automobile, novel use of 187
Automobile patents 58
Automobile postal wagons 362
Automobile race *56
Automobile race, Belgian 119
Automobile race, Paris 19
Automobile races 71
Automobile races, Newport *169
Automobile record, new 360
Automobile savings bank 215
Automobile service, a public 167
Automobile show exhibits, *314, *331
Automobile speed records *347
Automobile tour of Scotland 106
Automobile transport, Brussels 392
Automobile transport, Madagascar 215
Automobile vocabulary 183
Automobile vs. balloon 280
Automobiles, alcohol *428
Automobiles, electric 199
Automobiles for French army 119
Automobiles, Mors 119
Automobiles, military 87, 199
Automobiles, military, test of 106
Automobiles, speed in France 230
Automobiles, style in *292
Auto-tricycle, Thomas *9
Autumn leaves, study of 291
Axle, driving, automobile *180
Axle, wagon, skein for *235

B

Baby incubators *68
Bacilli, phosphorescent 234
Bacteria in modeling clay 165
Bail supporter *348
Bakery, portable 362
Balloon ascension, a 202
Balloon, Ezekiel *228
Balloon, exploring, data 280
Balloon in the army 263
Balloon prize, the 275
Balloon, Renard's new 151
Balloon, Roze, test of 165
Balloon, Santos-Dumont 38, *57, *89, *213, *428
Balloon, Santos-Dumont, fails 195
Balloon, Santos-Dumont, mishap 98
Balloon, Santos-Dumont, prize *314
Balloon, Santos-Dumont, wreck *155
Balloon, the Kress 250
Balloon trip across Alps 234
Balloon trip across channel 312
Balloon trip, contemplated 148
Balloon trip, de la Vaulx *265
Balloon, Von Zeppelin's 58
Balloon vs. automobile 280
Balloon, war, Barton's 67
Ballooning feat, a 151
Bank on wheels 266
Barges, electric towage 151
Barley, constituents of 231
Barometer, new form of *90
Barrel, new form of *431
Baths, Roman, Scotland 51
Battery, semi-dry *74
Batteries, storage, portable 22
Battleship Charlemagne 311
Battleship design 82, *90
Battleship design, latest *345
Battleship, recent type *39
Battleship Retvizan *263
Battleships *375
Battleships, wood in 5
Beads, celluloid 85
Beehives, traveling 86
Bee keeping in United States *281
Berehaven, Port of 295
Berthelot anniversary 410
Bicycle gas generator *431
Bicycle, military, French *204
Bicycle, motor *413
Bicycle, motor, Hedstrom 392
Biltmore forest 166
Blood, concentration of 276
Blood rain, analysis of 413
Blowpipe, improved *53
Boat house, Loudon *181
Boat, lance, German *9
Boat, submarine, English, new 262
Boats, submarine, experiments 88
Boats, submarine, French 87
Boats, submarine, utility of 295
Boiler, Belleville, tests of 324
Boiler inspection in France 140
Boiler, locomotive, problem 308
Boiler testing, notes on 136
Boiler, water-tube 71
Boiler, water-tube, new 135
Boilers, Belleville and others 211
Boilers, evaporative power 135
Boilers, marine, inspection 87
Boilers, second-hand 53
Boilers, water-tube 98
Bologna, towers of 135
Book lamp, new *181
Breech mechanism *383
Bridge, Amu Darja, new 7
Bridge, Brooklyn, accident 102
Bridge, Brooklyn, damage to 242
Bridge, Brooklyn, failure *74
Bridge, Brooklyn, relief of 258
Bridge, Brooklyn, repair of 66
Bridge, Brooklyn, safety of 82
Bridge, cantilever, largest 411
Bridge, cantilever, Yukon *132
Bridge, East River, new *166 *311
Bridge, Goktelk *104
Bridge, Petruffe, new 28
Bridge, suspension, New York *70
Bridge, the Rankin *364
Bridge, Willis Avenue 153
Bridge-work, dental, patent 350
Bridges, arch, concrete *327
Bridges, big, painting 274
Bridges, lift, rolling *198
Bridges vs. tunnels 422
Brake, Westinghouse *52
Breakwaters, strengthening 203
Bronze, ancient, analysis of 203
Bucket, grab, automatic *180
Bull fight, automobile 230
Bureau of ordnance 274
Bureau of standardization 411
Burglar alarm, simple 431
Burglar-tools, electric 348
Burial tumuli, African *248
Butter supply, England's 179
Button for firemen 83

C

Cable companies, number 202
Cable laying in Philippines *326, 362
Cable, London and Birmingham 22
Cable span, Carquinez *280
Caesium compounds, new 186
Calcium carbide, analysis 119
California, the *385
Camera for the Sultan 83
Can opener, novel *84
Canaigre growing 178
Canal, Black Sea 58
Canal plans, Russia's 363
Canal, ship, proposed 102
Canal, Suez, figures 235
Cancer, cause of 3
Cape-Cairo telegraph *343
Car coupler, requisites of 209
Car, excursion, night *261
Car for carrying live fish 135
Car, palace, trolley *5
Car, self-propelled 219
Cars, electric, in London 279
Carousels, manufacture of *185
Carbon heater *348
Carquinez, cable span *280
Carpet weaving, Persian 180
Carriage, steam, condensing 324
Cave drawings 350
Caves, French, remarkable 341
Celluloid beads 35
Celtic, White Star liner 103
Census of Western States 115
Chain stopper, novel *53
Chalk-line holder *165
Champagne manufacture 282
Charlemagne, battleship *311
Charleston Exposition 411
Charleston, the *380
Chattanooga, the *387
Chemistry, some mysteries of 140
Chemists, wealth made by 274
China grass silk 392
China, shipbuilders of 412
Chimneys, lamp *54
Cigar butts, gathering 411
Clay, modeling, bacteria in 195
Cleptoscope, the 329
Cleveland, the *387
Cliff dwellers, the 163
Cliff dwellers, ruins of 179
Clock, a remarkable 328
Clouds and electricity *85
Coal, bituminous, industry 243
Coal exports, our 150
Coal tar, products of 117
Coaling, quick 231
Coaling tower, novel 55
Coast signal service 291
Cobalt, solenides of 2
Cobra and Viper, loss of 226
Cocoanut, new product from 107
Cock, stop, new 231
Coinage, process of *154
Coins, English, new 360
Coke making *86
Coke oven, Maryland 198
Coke substitute for coal 3
Colchicine 179
Cold-storage plant wanted 347
Colorado, irrigation in 358
Collisions, sea, to prevent 231
Colorado, the *385
Color solution for plates 84
Colors, coal tar 117
Columbia and Shamrock 194
Columbia, the 102
Comet, Encke's 115
Comet, Encke's, return of 154
Compass machine *184
Composing machine, new *37
Concrete arch bridges *327
Condenser, electric, novel 305
Condenser, safety, Grieve *409
Condensing plant, Edison 84
Congress, geographical 414
Congress, hydrographic 10
Contrivances, odd *348
Cooking range, inventor 329
Copper in Siberia 102
Copper smelting in Asia 138
Copyright infringement 259
Cordage, manufacture of *244
Corn crop, estimate of 310
Couple, thermo-electric 340
Coupler, car, requisites of 209
Crabs, Russian export of 105
Crane, floating, 80-ton *212
Cranial evolution 325
Croton dam 358
Croton dam, new *182
Croton dam, remodeling 178
Crowds, large, handling of 7
Cruiser Leon Gambetta 295
Cruisers, armored *385
Cruisers, protected *380
Cruisers, semi-armored *386
Cup championships, struggle 34
Cup contest, America *232
Cup contests, America *217
Cup races, America 242
Cycle exports, increased 266
Cycle, motor, evolution 413
Cycle motor, new *203

D

Dairy, Queen Alexandra's *229
Dam, Croton 358
Dam, Croton, new *182
Dam, Croton, remodeling 178
Defense, curious means of *187
Delfino, submarine vessel 167
Del Mar, pyramids of *8
Denver, the *386
Derrick, builder's *410

Des Moines, the *387
Deutschland, fast trip of.... 5
Developers, photo..... 118
Devices, curious..... *299
Devices, electric, new..... *349
Diamonds, import tax on.. 259
Dinnington, 88., wreck of.. *29
Dinosaur, large, Yale's..... *105
Dipper handle, new..... *348
Discharge, electric..... 361
Discoveries, Peary's..... 194
Dock, floating, largest..... *72
Dock, floating, towing a.... *297
Docks, London..... 215
Dome of St. Paul damaged.. 103
Doors, electroplated..... 232
Dover a port of call..... 183
Draft, forced vs. natural.... 280
Drainage of New Orleans.... *304
Drawings, care in..... 359
Dredge shovels..... *366
Drill, diamond, inventor.... 306
Drill school, fire..... *120
Drydock, towing a..... *297
Ducks, decoy..... *431
Dust, red, analysis of..... 413
Dying and weaving process... 123

E

Ear, internal, liquid of..... 57
Eclipse, expedition, Lick.... *331
Education, change of front.. 163
Education, higher, and trade 114
Eggs, examination of..... *88
Egypt, irrigation of..... 227
Eiffel Tower, use of..... 202
Elasmosaurs, habits of.... *267
Electric plant, Snake River. *299
Electrical invention..... 430
Electrical notes..7, 22, 54, 119, 135, 151, 183, 199, 231, 262, 295, 316
Electricity at Paris Exposition 7
Electricity in gold mining.. *216
Electricity in railroading.... 274
Electromobile record, new.... 360
Electrophone in London..... 119
Elephant catcher needed..... 313
Elevator for infants..... *68
Elevators, grain, modern..... *117
Embarkation, saving time in 219
Emden, port of..... 325
Emery-coated tools..... 263
Energy, electric, distribution 150
Energy, electric, trans., Italy 151
Engine, gas, plants..... 280
Engine, locomobile, new..... *360
Engine, passenger, improved 135
Engine, traction, motor..... 38
Engine, waste-heat..... 279
Engineering, marine, appliances 71
Engineering notes..7, 23, 38, 55, 71, 87, 102, 119, 135, 151, 167, 199, 215, 231, 262, 295, 311, 329, 411
Engineers, electrical, Amer.. 231
Engineers, Electrical Institute 147
Engineers, stationary, license 215
Engines, condensing..... 118
Engines, fire, motor, London 134
Engines of the King Edward *88
Engines of Wisconsin *378
Engines, oil, efficiency of.. 135
Entertainment, forms of.... 227
Europium 71
Excursion car, night..... 261
Exhibition, Pan-American.... 309
Expedition, antarctic..... 85
Expedition, antarctic, Swedish 333
Expedition, the Jesup..... 341
Expeditions, Arctic..... 69
Exploration fund, Egypt..... 69
Explosive, a new..... 275
Explosives, consumption of.. 102
Exposition, Charleston 311
Exposition, Pan-American... *23
Eyeglasses for voters..... 275

F

Fabrics, adulterated..... 115
Fan, electric..... *348
Farragut, the *388
Feeble minded, causes of.... 163
Feeding wild animals..... 250
Fertiliser distributor..... *196
Fever, yellow, and mosquitoes 195
Fiber, palm leaf..... 137
Fibroleum 99
Filament, lamp, new..... *349
Filament, Osmium *90, 205
Filter, a novel..... *235
Filtration plant, Albany..... 59
Finger ring manufacture.... 341
Fire apparatus, electric..... 87
Fire-damp indicator..... 103
Fire department drill school. *120
Fire drill law, new..... 167
Fire engine, motor-driven.... 55
Fire engines, motor 410
Fire engines, motor, London 134
Fire engines, self-propelling *105
Fire pump, electric, new.... 134
Firebox for stoves..... *250
Firemen, training school..... 55
Fish, a rare *415
Fiske, John, death..... 19
Flame discharge, properties. 135
Flash-light apparatus..... *305
Flood, West Virginia..... *43
Flora of Madagascar..... 164
Flowers, opening and closing 275
Fly wheel accidents..... 262
Flying machine, Denny..... 3
Flying machine, Nemethy's. *73
Fog signals, Foster's..... *200
Fog studies..... *52
Food stores on the Discovery 165
Fool killer takes soundings.. 215
Foot Killer II., the..... *201
Forage wagon, auto..... *220
Forest, Biltmore, the..... 166
Forest fires..... *101
Fossil quarry, Wyoming..... *4
Fountain, luminous, new..... *122
Fournier, M., accident..... 295
Freight cars, steel, Africa.. 215
French, teaching method.... 151
Frog, tongue of, movement.. 247
Frogs, hypnosis in *414
Fuel at Daros..... 22
Fuel, liquid..... 38
Fuel, liquid, burning..... 199
Fuel, low grade, Sweden..... 326
Fuel, straw as..... 70
Fulton memorial, the *407
Fungi, luminous..... 231
Furnace, glass, electric..... *212

G

Gage, wind pressure..... *312
Gage, rain..... *312
Games, inventing..... 227
Gardens, roof, private..... 259
Gas engine plants..... 280
Gas engine, Tharston on..... 411
Gas generator, bicycle..... *431
Gas, natural, for motors..... 231
Gas, natural, shrinkage..... 6
Gas, natural, status of..... 340
Gas tubing new..... 90
Gases, liquefying *148
Gases, monatomic 325
Geographical congress..... 414
Georgia, the *378
Germany, census of..... 231
Germany, commercial depression 179
Germany, industrial crisis.. 136
Giraffe, a new species of.... *168
Glass for scientific purposes. 317
Glass, furnace, electric..... *212
Glass paving material..... 75
Glass, yellow for signals... 122
Glasses for voters..... 275
Gloss, patent leather..... 305
Gloves, insulation resistance. 262
Glycin developer..... 118
God's will be done..... 178
Gold mining, electricity in. *216
Gold mining in Africa..... 258
Grab bucket, new..... *180
Grain elevators, modern.... *117
Gramophone *387
Granite as an insulator..... 199
Grapé tendrils, nature of.... 358
Grate for stoves..... *350
Grease pump, simple..... *165
Gun, field, new, British.... 295
Gun, quick-fire..... 5
Gun mounts *383
Gun, promising type of..... 146
Gun, wire, accident to..... 290
Gun, wire-wound..... *152
Guns, 50-caliber, new..... *232
Guns and armor *382
Guns, wire-wound, new..... 246
Gutta percha tree, saving the 312
Gypsum, to harden..... 3

H

Hair, white, causes of..... 134
Harbor improvement, Oakland 196
Harkness, H. W., death of. 51
Haulage, traction rail..... *428
Hay stacker, new *410
Heat of the stars..... *412
Heat transm. through vapor.. 325
Heater, carbon..... *348
Heater, water, electric..... *196
Heating systems..... 98
Heavens in December..... 341
Heavens in January, 1902.... 423
Heavens in November..... 275
Heavens in October..... 195
Heavens in September..... 134
Heavens, the August..... 259
Hill climbing shoe..... *299
History, ancient, research.. 325
Hoists, electric..... *53
Horn, novel, for phonographs 349
Horse car lines, New York.. 199
Hotel, floating..... 87
Houseboat London..... *181
Hydraulic plant, Swiss..... 343
Hydrogen, solid..... 4
Hydrography, instruments for *184
Hydroquinone developer..... 118
Hypnosis in frogs..... *414

I

Ice, artificial, India..... 363
Ice manufacture, India..... 70
Ice plant wanted..... 183
Ichthyosaurus, gift of a.... 247
Incubators, baby..... *68
Independence Hall, protection 135
Indian, East Trinidad..... *101
Indians, the Seri..... *41
India, British, trade of..... 411
India rubber substitute..... 349
India rubber tree, the..... *263
Indicator, locomotive..... *116
Indicator, speed, prize for... 151
Industrial methods, criticism. 210
Infants, weighing..... *68
Inkwell, siphon..... *348
Institute of electric engineers 147
Incubator, a new..... 135
Insect destroyer..... 431
Inventions, recently patented 11, 27, 59, 76, 92, 108, 124, 140, 156, 172, 188, 204, 220, 238, 254, 268, 284, 307, 318, 334, 351, 367, 394, 416, 432
Inventions, simple..... *431
Inventions, women's..... 431
Inventiveness, British..... 431
Iroquois, lengthening of.... *136
Iron and steel in United States 148
Iron, magnetized, E. M. F.. 118
Iron making on Pacific.... *409
Iron mining near Dover..... 199
Iron, pickling of..... 324
Iron producer, Russia as.... 87
Iron smelting, new process.. 215
Irrigation society, protest... 424
Ivory, prehistoric..... 179

J

Jerome Park reservoir..... *1
Journey around the world... 70
Jungfrau railroad..... 70
Jupiter steel..... *230

K

Kaiser Wilhelm der Grosse. 242
Kansas, zinc mining..... 340
Kearsarge, the *375
Kentucky, the *375
Key keeper, a..... *290
King Edward, engines of.... *88
King Edward, steamer..... 329
Kitchens, motor car..... 106
Kite, a signaling..... 360
Kronprinz Wilhelm, the..... *164

L

Labor conditions, German... 235
Laboratories, physico-technical 67
Lamp, book, new..... *181
Lamp chimneys..... *54
Lamp, electric, the Bang.... 183
Lamp filament, new..... *349
Lamp for lupus cure..... 165
Lamp hanger, new..... *349
Lamp, incandescent, Nernst.. 295
Lamp, Nernst..... 183
Lamp, Osmian..... 90
Lamp post signs, new..... *26
Lamp, vapor, Hewitt..... 295
Lamps, incandescent, repair 300
Lamps, Nernst..... 349
Lamps, Nernst, test of..... 262
Lance boat, German..... *9
Language, universal 410
Language, universal, Latin as 363
Language, study 55
Lantern slides, distortion in 25
La Lavole, French liner.... 179
Last Supper, da Vinci's..... 211
Lathe, home-made..... *148
Latin, universal tongue..... 363
Laughter and long life..... 70
Laws, interpretations of..... 151
Laymen as jurymen in science 211
Leather, artificial, new..... 99
Leather turtle, the..... *283
Leaves, autumn, study of... 291
Le Conte, Joseph, death of... 51
Legal notes..... 326
Leonids, the..... 363
Lifting machine..... *184
Leviathan, cruiser..... 87
Lick Observatory, letter from 183
Life, future, opinions upon.. 3
Light, electric, Bangkok..... 231
Light, electric, chain pull... *349
Lighthouse, floppotating 23
Lighthouse, Beach Head..... *294
Lightning, ball..... 72
Lightning belt, destructive.. *202
Lightning, nature of..... 277
Lightship, a unique..... 73
Lilace, under the..... 38
Lindsay, J. B., monument... 276
Lizard, horned..... *187
Lockyer, retirement of..... 19
Lockyer, Sir Norman..... *107
Locomotive, a freight..... *116
Locomotive boiler explosion.. 313
Locomotive boiler problem.... 355
Locomotive, compound..... *276
Locomotive curiosity..... *197
Locomotive, electric, Italian. *133
Locomotive explosion..... *197
Locomotive, growth of..... *276
Locomotive, historical, a.... 170
Locomotive indicator..... *110
Locomotive, passenger, new 135, *360
Locomotive, Stephenson's.... *84
Locomotive, tandem..... 226
Locomotives, American..... 2
Locomotives, English and American 135
Locomotives, cost of..... 43
Locomotives for Egypt..... 262
London, meteorology of..... 86
Longitude, Paris and London 35
Loudon, house boat..... *181
Lubricator, novel..... *138
Lungs, vaso-motor supply.... 325
Lupus, light cure for..... 165

M

Madagascar, flora of..... 164
Magnets, lifting, electric.... *201
Magnets, permanent..... *413
Maine, the *378
Mammoth, a Russian..... 99
Man, stone age of..... 259
Mangoes in India..... 120
Maps, accurate, making..... 325
Marine, mercantile, the..... 263
Maryland, the *387
Matches, manufacture of.... *149
Matterhorn, ascent of..... *168
McKinley, Mr., death of.... 178
Megaphone in army..... 23
Metals, alkaline, spectra..... 410
Meteorological instruments.. *312
Meteorology of London..... 86
Meteors, a swarm of..... 247
Meteors, Leonid..... 363
Methods, American, in England 35
Metric system, advantages... 361
Metric system, discussion on. 329
Metric system, extension of. 211
Mica, consumption of..... 294
Milk bottle holder..... *299
Milk preservatives..... 73
Milling machine..... *154
Mills, James E., death of.. 87
Milwaukee, the *386
Mineral waters, varietal, the .. 95
Mining in South Africa..... 258
Mining plant, Snake River.. *299
Minot, Charles S..... *131
Moccasin, the *387
Molasses as cattle food..... 247
Molds for wall construction... 167
Molding, sewer *280
Monaco, harbor of..... 363
Money, how made..... *154
Monitors, new *381
Monorail, the Behr..... 167
Montana, land in..... 359
Morris, Oliver, death of..... 259
Mosasaurs, habits of..... *267
Mosquito and malaria..... 42
Mosquito, extermination of, 99, 147
Mosquito net, new..... 135
Moths, cold storage vs..... 7
Motor, a wave..... *72
Motor, Brillie..... *428
Motor car vs. horse..... 23
Motor car driving..... 262
Motor cars in Congo..... 392
Motor cars, military..... 167
Motor carriage, Marconi..... 7
Motor carriage race..... *56
Motor carriages, tax on..... 71
Motor cycle, evolution *413
Motor cycle, new..... *203
Motor, electric, submerged. *245
Motor, gas, plants..... 280
Motor, portable, electric.... 135
Motor traction engine..... 38
Motor trucks..... 58
Motor union, proposed..... 55
Motors, alcohol..... 68
Motors, expansion, liquid.... 58
Motors, starting device for.. *5
Mount Vesuvius, automobile, ascent 55
Mouse trap, electric..... *348
Mower, automobile..... *132
Museum, Victoria and Albert 310
Mustard bug, the..... 19

N

Naval number, our..... 422
Naval programme for 1901.. 102
Navies of the world..... 18
Navigation, aerial, development 186
Navy, British, developments 66
Navy estimates..... 258
Navy, increase, proposed.... 308
Navy, our new..... 324
Navy, powerful, and peace.. 374
Navy since Spanish war.... 374
Navy vessels, construction... 342
Navy yard, Puget Sound.... *328
Nebula in Nova Persei..... *359
Negatives, paper..... 131
Negatives, star..... 7
Neodymium chloride..... 213
New York, municipal improvement 130
New York water supply..... *1
Niagara Falls, new bridge.. *327
Niagara Falls, passage of.... 291
Niagara rapids, passing..... *201
Niagara River development.. 230
Nicaragua or Panama 406
Nile irrigation works..... *228
Niobium, metal 107
Nobel prizes 410
Nobel prizes, award of..... 134
Nordenskjold, Baron, death of 115
Nouveau cirque, tank of..... *426
Nova Persei, nebula in..... 359
Nut-cracking industry, the.. 183
Nut-lock, railway track..... *102

O

Oak tree, large, removal of. 99
Observatory of Paris..... 422
Observatory, Royal British.. 18
Ocean waves, height of..... 2
Odors as antiseptics..... 294
Oil beds, submarine..... 170
Oilcloth manufacture..... *362
Oil engines, efficiency of.... 135
Oil for marine use..... 38
Oil, olive, uses of..... 359
Oil on highways..... *187
Oil-sprinkling trains..... *264
Oil tank, an immense..... 87
Oil, tea-seed..... 341
Okapi, the..... *250
Olive, cultivation of..... 359
Opossum, the *332
Ordnance Board, work of... *22
Ordnance, Bureau of..... 274
Ore deposits, study of..... 263
Osmium filaments..... 90, 205
Oven, coke, new..... *86
Oxygen for aeronauts..... 182
Oxygen, liquid 182
Oxygen, manufacture of..... 199

P

Painting of bridges..... 274
Palace, Art, of Paris..... 99
Palace car, trolley..... *5
Palm-leaf fiber..... 137
Panama or Nicaragua..... 406
Pan-American, end of..... 309
Pan-American Exposition.... *23
Pan-American Exposition, losses 359
Paper negatives..... 131
Paper, various uses of..... 83
Paris, population of..... 35
Pasteur Institute figures.... 262
Patent acts, working..... 430
Patent assignments, defective 35
Patent decisions, recent..... 300
Patent department, *288, *348, *366, 430
Patent Office, history of..... 79
Patent practice, German..... 298
Patent-selling scheme, new.. 430
Patents, automobile..... 58
Patents, British, 1900..... 9
Patents, notes on...329, 366, 392
Patents, Tesla's recent..... 348
Patents, the Harvey..... 350
Paving, glass..... 75
Paving blocks, use for..... 197
Peace and powerful navy.... 374
Pearl fisheries, Venezuela.... 316
Pendulum propeller..... *424
Pennsylvania, the *385
Penny-ice trade..... 190
Perfumes 294
Perry, the *388
Petrifaction, curious..... *249
Petrolan, a mineral soap.... 259
Petroleum congress..... 198
Petroleum in Europe..... 71
Petroleum in New Brunswick 195
Petroleum, storage of..... 151
Petroleum, submarine..... 170
Phares de Secours, Paris.... 180
Phenomenon, curious..... 35
Philippines, conditions in.... 121
Phonograph horn, novel..... 349
Phosphorescence of bacilli... 234
Photographophone 56
Photography, flashlight..... *395
Photo-plate, immense..... 133
Phthisis, note on..... 67
Pictures, half tone, process. 392
Pigeons, carrier, new use.... 275
Pike, the *387
Pikermi, excavating at..... 151
Pipe covering, fireproof..... *235
Pipes, attention to..... 202
Pith, cane, separating..... 396
Plant, electric, for Greece.. 316
Plant respiration, object of. 227
Plants, experiments on..... 151
Plants, higher, growth of.... 247
Plants, hygroscopic movements 116
Plants, narcotic..... 229
Plants of Madagascar..... 164
Plate, photo, immense..... 133
Plates, photographic..... 84
Population, density of..... 3
Population of civilized lands. 246
Population of Paris..... 35
Population of the world..... 342
Porpoise, the *387
Port of Berchaven, the..... 295
Port of Emden..... 325
Porto Rico, exports to..... 131
Portraiture by flashlight.... *395
Postel, discovery of a..... 245
Potassium salts, feldspar.... 187
President, attempt on..... 102
President, death of..... 219
Prince, airship, the..... 275
Prince, Deutsch, winner..... *314
Prize, the Follok..... 283
Prizes for a military tractor. 309
Prizes, Nobel 410
Prizes, Nobel, award..... 134
Problem, a naval..... 354
Propeller, new..... 395
Propeller, pendulum..... *424
Propeller, submerged..... *245
Propellers, design of....146, 198
Puget Sound navy yard..... *328
Pulley, split, a simple..... *277
Pulley, wood, large..... *260
Pump, fire, electric..... 134
Pump, force, new..... 426
Pump, grease, simple..... *165
Pump rod balance..... *431
Pyrometer, a new..... *19
Pyramids of Del Mar..... *8

R

Race, automobile and balloon 290
Race, automobile, Austrin.... 362
Race, automobile, Buffalo.... 194
Race, hill-climbing 167
Race, motor-carriage..... *56
Races, automobile, Newport. *169
Racers, Mors, speed of..... 119
Radium rays, effect of..... 83
Radium rays, selenium, action 214
Rails, steel, improved..... 4
Rain gage, new..... *312
Range finder, new..... *122, 261
Rankin bridge, the..... *361
Rats, pest of, Liston..... 329
Rays, X, in detective work. 391
Read, Pennsylv., station.. 406
Railroad tunnels..... *426
Railroads of Africa..... 6
Railroads, relocation of..... 50
Railroading, electricity in... 274
Railway, African, new..... 328
Railway, Beirut and Damascus 7
Railway connections, Manhattan 2
Railway, electric, London, 71, 151, 262
Railway, marine, a..... *277
Railway methods, American 50
Railway, Mexican, new..... 347
Railway, ore-carrying..... 55
Railway, Palermo-Mourcale.. *133
Railway, Russian, plans for. 317
Railway signaling, English. 329
Railway station, Buffalo.... *190
Railway, strategic, new..... 151
Railway, street associations. 246
Railway, suspension, Loschnits *165
Railway system, United States 130
Railway, the monorail..... 87
Railway, Uganda..... 183
Railway, underground, electric 54
Railway, Yungfrau..... 10
Railways, electric, Italy..... 295
Railways, English, loss on.. 313
Railways, first system..... 231
Railways, government..... 170
Railways, some new..... 260
Railways, underground..... 22
Railways, underground, London 345
Railways, underground, traffic 7
Rain, blood, analysis of..... 413
Record breaker, transatlantic 242
Refrigerating plant, home... 247
Reindeer for Alaska..... 228
Repeater, telegraph, new.... *245
Reservoir, Jerome Park..... *1
Reservoirs, new, Staines..... 23
Retvizan, battleship..... *263
Revolt beds, oiled..... *294
Road, electric, high speed.. 308
Roads, good, congress..... 140
Roof gardens, private..... 259
Rooding, steel..... 326
Room at the top..... 18
Ropewalk, modern..... *244
Rival of the Clyde and Thames 297
River Main, navigability of. 102
River Tyne, improvements... 297
Riverside viaduct *99
Riveting, pneumatic 325
Rubber, substitute for..349, 431
Rubber tree, cultivation.... *293
Ruby, the 155
Rugs, straightening..... *116
Russia as an iron producer.. 87

S

Safety condenser, Grieve.... *409
Salt, cake and caustic soda.. 267
Salts, mineral and assimilation 140
Salvage feat, clever..... *29
Salvage feat, great..... 178
Salvage operation, novel..... *310
Sand blast, natural *58
Sandwheel, giant *411
Santos-Dumont, plans of..... 324
Santos-Dumont, talk with... 282
Santos-Dumont wins prize... *314
Sash, window, Bogue..... *158
Saurian, American, novel..... *267
Savages, most primitive..... *41
Saw sharpener, new..... *299
Scale of fruit trees..... *366
Scent 294
School of medicine, tropical 332
School for railway employes 7
School room temperature..... 98
Schooner, steel, large..... *248
Science Association, American 147, 163
Science notes..3, 19, 35, 51, 67, 83, 99, 115, 135, 151, 167, 179, 195, 211, 231, 247, 259, 275, 291, 306, 328, 341, 359, 411
Sciences, Natl. Academy..... 325
Scientists, California, two... 51
Screws for fishing vessels... 415
Seri Indians, the..... *41
Sewerage, New Orleans..... *364
Shamrock II...... *122
Shamrock II and Columbia.... 114
Shark, the *387
Shell tests, Sandy Hook..... 340
Shell, tests of, at Sandy Hook *344
Shells, explosive..... *22, *384
Ship, ancient, discovery of... 38
Ship, big, and waterways..... 98
Ship canal, proposed..... 102
Shipbuilders, Chinese 412
Shipbuilding in Japan..... 215
Shipbuilding, wastage of..... 202
Ship-worm and its work..... *317
Shoe factories, German..... 231
Shoe, hill-climbing..... *299
Shoe, marsh *299
Shoe-plank holder..... *84
Siberia, possibilities of..... 50
Sidebearing, new 392
Sierra Madres, burning of... *101
Sign, street, new..... *26
Signalling at night..... 135
Signal service, coast..... 291
Signaling system, English.. 330
Signals, fog, Foster's..... *200
Silk, China grass..... 392
Silk, imitation *247
Simplon tunnel, the..... *313
Sirup, evaporating 55
Skate, roller, new..... *431
Skein for axles..... *235
Skylight, color of..... 74
Slides, lantern, distortion.... 25
Sluice gates for the Nile.... *228
Smithsonian, traveling in.... *290
Smoke consumption 411
Smoke nuisance, the..... 313
Snake bites, death from..... 99
Snakes, grafting 137
Soap delivery device..... *277
Soap, mineral, petroleum.... 259
Soda, caustic, manufacture of 267
Sodium, electrolysis of..... 219
Sodium, peroxide of..... 36
Solent tunnel, the..... 243
Sound records, duplicating... 298
Sounding machine *184
South Dakota, the *385
Spectra of alkaline metals... 410
Speed indicator, new..... *100
Speed indicator prize..... 54
Speed indicator, prize for... 151
Spider, genius of..... 39
Spiders, useful *342
St. Paul's, danger to..... 114
Stack, smelter, wooden..... *260
Star magnitude, how rated.. 195
Star, new, in Perseus..... 341
Stars, heat of the *412
Stars, shooting, shower of.. 247
Starting device for motors.... *5
Station, an icing..... 119
Station, terminal, Buffalo.. *100
Steam carriage, condensing.. 324
Steam heat with condensing engine 118
Steam pressure on launches. 295
Steam, superheated..... 231, 329
Steamer line, N. Y. and Berchaven 167
Steamer, a turbine..... *40
Steel and iron in the United States 148
Steel castings, production.... 106
Steel, Jupiter *230
Steel, pressed, industry..... 329
Steel process, a new..... 342
Steel rails, improved..... 4
Steel rooding 326
Steel schooner, 7-mast..... *248
Steel, structural, modern.... 114
Stein Dr., travels of..... 325
Stone age of man..... 259
Stonehenge, discoveries at.. 329
Stove trade, change in..... 23
Stoves, grate for..... *350
Stratford-on-Avon, hygiene.... 69
Straw as fuel 70
St. Louis, the *386
Submarines, new..... 427
Submarines, the Holland..... 210
Subway, rapid transit..274, *297
Subway under the Thames.. 55
Suez Canal figures..... 235
Sulphur, quality of..... 115
Snoqualmie power plant..... 265
Sun bonnets for horses..... 115
Sun-lit hours..... 35
Sun spots, Lockyer on..... *107
Synchronism indicator..... *360

T

Tacoma, the *387
Talking machine, synthetic. *217
Tank of Nouveau cirque..... *429
Tank, water, new..... 71
Tar, coal, products of..... 117
Target practice, Aldershot.. 162
Tea-seed oil..... 341
Teaching French, method... 151
Teeth, pulling, finger..... 231
Telegrams, cheapening 119
Telegraph apparatus, Cordova *245
Telegraph apparatus, wireless *170
Telegraph cable, new..... 7
Telegraph, Cape-Cairo..... *343
Telegraph line, mileage..... 231
Telegraph, Pollak and Virag 170
Telegraph statistics..... 316
Telegraph system, Delany... 295
Telegraph repeater, new..... *245
Telegraphs, Marconi, the..... 146
Telegraphy, crude attempts. 212
Telegraphy, Marconi, at sea. 280
Telegraphy, wireless..7, 422, *425
Telegraphy, wireless, automobile 234
Telegraphy, wireless, development 178
Telegraphy, wireless, Drawbaugh 329
Telegraphy, wireless, in English navy 151
Telegraphy, wireless, Johnson 230, 295
Telegraphy, wireless, Marconi *40
Telegraphy, wireless, Popp.. 104
Telegraphy, wireless, Reber. 183
Telegraphy, wireless, Tesla.. 119
Telemeter, acoustic, the.... 199
Telepherage system, the.... *120
Telephone, common battery.. *24
Telephone repeater..... 366
Telephone line, secrecy of.. 7
Telephone system, London... 306
Telephone transmitter, vibrations 74
Telephoning a hospice..... 363
Telescope, Paris, useless..... 70
Teredo and its work..... *317
Thermometer, invention of.. 430
Thermometer, sealed, Brat.... 19
Thibet, communication with. 181
Tide calculation..... 67
Tin plate industry, the..... 107
Tombs, African..... *248
Tombs at Abydos..... 210
Tools, emery-coated..... 263
Torpedo boat engines, steam. 119
Torpedo boat Farragut *388
Torpedo destroyer Viper.... 166
Torpedo boats *387
Torpedo boats, new..... 427
Towage, electric..... 151
Towage, Ladoga Canal..... 228
Towers, two, of Bologna..... 135
Trading tank, the..... 210
Track record, fastest..... 243
Traction, road, electric..... 308
Tractor, military, prizes for 309
Trade and higher education. 114
Trade Dollar Mining Co..... *209
Trade marks and patents..... 350
Trade mark blackmail..... 165
Trade mark decisions, new.. 300
Trade paper, best class..... 163
Train, the swiftest..... 68
Trains, oil-sprinkling..... *264
Tramway, funicular, electric. *133
Tramways, electric, proposed 54
Tramways, London, electric, 22, 262
Tramways of Paris..... 316
Transit, rapid, subway..274, *297
Transit, rapid, tunnel..... *278
Transmitter, Berliner..... *18
Transport vessel, Russian..... 23
Traveling, cheap, Europe..... 38
Treasures, royal, English..... 226
Tree growths, curious..... *73
Tree windmill, a..... *246
Tricycle, auto, Thomas..... *9
Trolley palace car..... *5
True point of view..... 210
Tubercle bacillus, the..... 195
Tubing, gas, new..... 90
Tumuli, burial, African.... *248
Tungsten, observations on.... 325
Tunnel, Central, jury vs..... 87
Tunnel, Central, nuisance.... 82
Tunnel, N. Y. Central..... 290
Tunnel, Pennsylv. R. R..... 406
Tunnel, rapid transit..... *278
Tunnel, Scotland-Ireland..... 308
Tunnel, Simplon, the..... *313
Tunnel, Solent, the..... 243
Tunnels and bridges..... 422
Tunnels, railroad..... *426
Turbine steamer, King Edward *88
Turbine, marine, Astor's.... *298
Turbine steamer 39, *40
Turbine steamer, King Edward 329
Turbines, wear and tear of.. 326
Turkestan, traveled in..... 325
Turntable, hand car..... *235
Turquoises, mining of..... 199
Turret, the superposed..... *123
Turtle, leather..... *283
Turtles of Galapagos..... 139
Twine holder, novel..... *5
Tycho Brahe, anniversary.... 283
Tycho Brahe, tomb of..... 200
Tyne River, improvements... 297
Typewriters in Turkey..... 3
Typewriter, new..... *283
Typesetting machine *37

U

Uganda Railway, the..... 183
United States as naval power. 390
Upsetting machine..... *154

V

Vane, weather, new..... *312
Vegetaline butter..... 167
Ventilator, window..... *290
Vessel, interesting type of.. 260
Vessels, American, tonnage.. 10
Vessels lost in 1900..... 167
Vessels, submarine, fighting.. 87
Vessels, submarine, new.... 329
Viaduct, Riverside *99
Vibrations under London.... 258
Vibrators, and electrical effects 100
Vineyard pest, new..... 184
Viper and Cobra, loss of... 226
Viper, torpedo destroyer..... 166
Virgil, statue of..... 3
Virginia, the *378
Virginia, West, flood in..... *43

W

Wages in India..... 313
Wagon axles, skein for..... *235
Wagon, oil sprinkling..... *187
Wall construction, mold for. *84
Warfare, naval 375
Warning, a timely..... 102
Warship, building, private... 242
Warship construction 70
Washing, dry..... 327
Wasps injure fruit..... 195
Waste-heat engine..... 279
Watch contract, large..... 214
Water tank, new..... *71
Water heater, electric..... *196
Water supply of New York.. *1
Waterfall, large, Hawaii.... 297
Waters, contaminated 179
Waters, mineral, variations. 66
Wave motor *72
Waves, ocean, height of..... 2
Waves, study of, chemistry.. 19
Wealth made by chemists..... 214
Weather, changes in, cause of *85
Weather vane, new..... *312
Weaving and dyeing process 123
Weaving, carpet, Persian.... 180
Weaving device, new..... 51
Well, artesian, a deep..... 313
Wells, artesian *21
West Virginia flood..... *43
West Virginia, the *385
Westinghouse Co., works of.. *138
Wheel, belt bearing..... *348
Wheel within wheel..... *316
Wheels, car truing up..... 7
Wheels, chilled, manufacture 167
Whirlpool rapids, passing... *201
Wind pressure gage..... *312
Windmill, a curious..... *246
Window sash, Bogue..... *158
Window ventilator..... *290
Wisconsin, the *376
Woandsu, African 167
Woman, Peruvian, petrified.. *249
Wood, agatized 67
Wood in battleships..... 5
Wood, preparation for building 183
Wool, Bagdad 329
Words introduced by automobile 183
Workmen, German 407
Wrecking, marine, novel..... *310
Writing machinery, new..... *283
Wurtemburg, science in..... 423
Wyoming fossil quarry..... *4

Y

Yacht for King Edward..... 295
Yachts, factor of safety..... 7

Z

Zebra for transport..... 51
Zinc field, a new..... 26
Zinc mining, Kansas..... *26
Zoo, natural, Uganda..... 36
Zuidee Zee, reclaiming..... 262
Zuider Zee, reclaiming..... 262